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Walter A. Lawrance
Bates College

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APPENDIX

Local Press Items

Lewiston Evening Journal. June 26, 1946.

MERCURY DOWN TO 86.

Sixth paragraph of the article is as follows:

"Only one bright feature - aside from the blazing sun - cheered the picture, Old Man River was behaving in perfect taste, so far. The river bed is low, and there are great quantities of heavy oil on the surface but so far the "Channel 5" aroma was blessedly lacking. Another few days of this, though, and the community can expect the worst."

Lewiston Evening Journal. July 8, 1946.

"FIFTY YEARS AGO TODAY - 1896"

S. H. Woodbridge, a specialist from Boston addressed a meeting of the Lewiston school board on the subject of sanitation in the public schools, but made few specific recommendations. Supt. of schools Phillips was unanimously re-elected. Prof. Jordan brought up the matter of drinking water in the schools. He reported that several analyses made on The Androscoggin River water, Lewiston's source of supply showed it unfit for drinking because of chemicals from the pulp mills up river which were starting to contaminate the water supply.

Lewiston Evening Journal. July 24, 1946.

PREDICTS IT WOULD TAKE 10-12 YEARS TO
CLEAR UP RIVER IF DUMPING WERE STOPPED.

Declaring that no one should be allowed to use Maine's streams and rivers "to the detriment of others", J. Elliott Hale, sanitary engineer of the State Department of Health and Welfare, said "The waters of this state are for each and every citizen" in speaking to the Auburn and Lewiston Kiwanis Club at the Auburn Y.M.C.A. this noon.

He said that the Androscoggin River was one of the "really polluted waterways in the state and stated that real estate values on the rivers shore were low. Hale indicated that through processing the Androscoggin could be made comparatively free of pollution but that it would be impossible to clear it completely. But he told the Kiwanians that even if the dumping of waste materials ended tomorrow it would take 10 to 12 years to clear the river. Hale said that in many cases the mills were uncooperative. He had told of one such firm which had started dumping bark in the river since the public had demanded action against pollution.

Lewiston Daily Sun. July 26, 1946.

SAYS POLLUTION STILL FAR FROM BEING
SOLVED IN ANDROSCOGGIN RIVER.

A plea for a stringent state law to prevent pollution of Maine's lakes, streams, and rivers was made by J. Elliott Hale, technical secretary to the State Sanitary Water Board at Wednesday noon's meeting of the Auburn-Lewiston Kiwanis Club at Auburn Y.W.C.A. He described the Androscoggin River as "utterly polluted" and blamed mills and communities along the river's banks for its stinking condition.

He explained the Androscoggin River could become a class B river, relatively free from pollution if mills and communities would install proper preventative equipment, but figured the current condition so bad that, even if the dumping of waste materials stopped tomorrow it would take 10 to 12 years to clear the river. In many cases Hale said mills were uncooperative. He named one firm along the river which had started dumping bark into the river since public action took the river's pollution into court a few years ago. Hale blamed slowness of industrial research in finding suitable by-products from waste materials for part of the state's water pollution problem. Industries are reluctant to change manufacturing processes when increased expenses result. Frankly naming places, communities and firms Hale discussed a current state-wide survey being made by the Maine Sanitary Water Board. He said 62 places along the Maine sea coast were so polluted clams could not be dug.

State authorities he declared would have sought to close Old Orchard Beach if action had not been taken there to free the water from pollution. He added more money would have to be invested before the beach was entirely free from the pollution menace. Lack of a strong Maine anti-pollution law has hampered work to clean up State lakes, rivers and streams, he said. Violators must be prosecuted under nuisance laws in the majority of cases. He praised local civic organizations throughout Maine for their efforts to help with the pollution problem.

Lewiston Evening Journal. August 2, 1946.

RIVER LOW, BUT CONTROL OF
FLOW PREVENTS TROUBLE.

Control of water flowage on the Androscoggin River through the series of dams owned by the Union Water Power Company, has prevented any necessity for shutdowns of local mills, or extensive purchases of electric power to maintain operation, according to figures on water flow released by Agent Ford Harris of the UWPCO. Drought conditions through July brought the water flow to its lowest ebb since 1941. But for the release of stored water along the Androscoggin the flow would have been cut by more than one-half.

Before the elaborate system of dams was built any drop in the flow of water in the Androscoggin seriously affected local mill operations. Usually, there were long layoffs during the summer months, and more layoffs in the spring, when high water conditions caused difficulty.

Now, the dams control the flow. In addition, there is a standby service of electricity, to insure full operation of the large textile plants.

Maintenance of water flow also serves another purpose: It keeps enough water along the river bed to flush it out, thus keeping the river smell nuisance to a minimum.

Water flow at Gulf Island Dam through July was 2,556 cubic feet per second. Of this amount 1,512 cubic feet was water released

from the lakes on the upper reaches of the river. Without the controlling dams, the flow would have been only 1,074 cubic feet per second.

Water flowage figures for July of the past five years were: 3,524 in 1940; 2,787 in 1944; 2,876 in 1943; 2,770 in 1942; and 2,136 in 1941.

At the present time, the amount of water running into the lakes from the surrounding region is the lowest since 1942 according to Engineer Harris. Except for 1942 it is the lowest in a quarter of a century.

Editorial. Lewiston Evening Journal. August 2, 1946.

THE MALICIOUS ANDROSCOGGIN.

Rainfall like that of yesterday and last night helps maintain levels of the reservoirs that control the Androscoggin River that boils and steams its way to Merrymeeting Bay. The meeting with the Kennebec can hardly be merry. The Androscoggin, one of the best developed rivers in the world from the viewpoint of power, rarely fails the mills and factories down the river. Its vagaries and those of nature have been overcome by a series of dams and reservoirs.

As though the old river resented this interference by man, his conversion of it into a sewer, it retaliates in summer heat to befoul the atmosphere with sickening stench, reducing the river banks property valuations and robbing us of what nature intended to be a beautiful stream to be enjoyed by those that live on its banks.

How long will the already long suffering communities have to put up with this nuisance?

Lewiston Evening Journal. August 8, 1946. "city locals"

The Androscoggin river was very much in evidence this afternoon and was not to be mistaken for Channel No. 3.... Whiff. Whiff.

Lewiston Daily Sun. August 12, 1946. "locals"

When members of the Androscoggin Fish and Game Association gather this evening for their general meeting, the offensive odor of the Androscoggin River will be the subject for discussion. Gerald P. Evans of Auburn, who has made an extensive study on the river pollution situation, will make a report on legislative action on the matter. Several other matters of general interest will be discussed. Plans for the Field Day to be held August 25 will be made.

Lewiston Daily Sun. August 13, 1946.

AFGA TO HEAR TALK ON
RIVER POLLUTION.

An open meeting of the Androscoggin Fish and Game Association will be held tonight at Auburn Y.M.C.A. to hear a report by Gerald P. Evans of Auburn on pollution conditions in the Androscoggin river and to plan the association's field day, August 25.

Evans, who once caught game fish in the river, recently conducted an extensive study of all phases of the river's pollution. A general discussion will follow his talk and will form the basis for the association's policy regarding further pollution preventative measures.

The meeting, scheduled for 8 P.M. is open to both members and the public, and will consider several other items of association business.

Lewiston Evening Journal. August 30, 1946. Reported by L. A. Lemieux

HIGHWAY ROUTE NOT POLITICAL, BILLETTE PROMISES
TO TRY AGAIN FOR RIVER CLEAN-UP.

Under the subheading "River, Roads"

The Governor, in his address, said that while campaigning in this city two years ago, he had viewed the condition of the Androscoggin river at the Gulf Island Dam, and that he had then resolved that he would make every effort to put teeth into the law creating the Sanitary Water Board and to do all in his power to get the foul conditions cleaned up.

The law was strengthened and pollution was frozen at its existing point, he declared. Now, the work of cleaning up this river, as well as the other waters of the state, is underway. The accumulation of the years cannot be cured "overnight" however "without irreparable damage to the economy of Maine."

Lewiston Daily Sun. August 30, 1946. Reporting same speech. The Governor mentioned a subject well known to Lewiston and Auburn residents, when he spoke of river pollution. He credited Maine's

new anti-pollution law with being one of the "most progressive steps taken by any administration in the state's history."

"I do not have to tell you about water pollution," he said. "You have been plagued with it for years. Yet nothing much had been done about it except talk. Consequently, one of the first things I did when I came into office was to take steps to solve this problem."

"The problem could not be solved overnight, but I did believe that we could put an end to all future pollution of our streams and rivers by new sources, thereby clearing the way for our Sanitary Water Department to concentrate on the task of clearing up our present sources of pollution."

"With the cooperation of industry such a bill was enacted. So for the first time we have taken a constructive step. We have closed the door to future pollution from new sources and we have intensified our efforts to correct the present sources of pollution."

He asserted that the bill had "teeth in it" where the old Sanitary Water Board acted only in an advisory capacity.

Lewiston Daily Sun, September 18, 1946.

PUBLIC SEWERAGE BEST FOR SLUDGE

Connecticut official discusses sludge disposal at Water Works Meeting

Poland Spring -- in an appraisal of water filtration plants in Connecticut, Frederick O.A. Almquist, principal sanitary engineer

at Hartford, Conn. told delegates to the 65th annual meeting of the New England Water Works Association Tuesday at Poland Spring that wash water and sludge are best disposed of by discharging them into a public sewerage system. He recommended extending sewerage lines to a water treatment plant if there were no public system.

The Connecticut official explained the use of drying beds for sludge disposal, pointing out that they proved offensive, because of local odors, unless land was obtained for a distance of 500 to 1,000 feet from the sludge bed. Lagooning has proved good, he said, especially if two lagoons are used in the treatment of the sludge and wash water. As in the case of drying beds, sufficient land must be obtained to prevent offensive odors from creating a nuisance for homeowners.

The information on sludge disposal was of particular interest to Maine sanitary officials, who currently are contending with the problem of disposing of large amounts of sludge on the polluted Androscoggin river.

Lewiston Evening Journal. September 20, 1946.

SEES WARTIME WORK ANSWER TO POLLUTION

Poland Spring -- Research facilities, developed by industry through the war years, now are available for use and will be "of increasing importance in the elimination of pollution and the causes of pollution from New England streams and rivers."

Arthur L. Shaw, newly elected president of the New England Water

Works Association, said today as the 65th annual meeting of the Association came to a close. Shaw is a partner in the firm of Metcalf and Eddy, of Boston, a concern which conducted an exhaustive study of pollution conditions on the Androscoggin River a few years ago. That study still is the basis of corrective measures being carried on by the State of Maine.

President Shaw saw in research the only practical, permanent answer to the pollution problem, on the industrial level. Expensive facilities developed under the stress of war now can be turned to the peacetime problem. From the laboratories which steered American industry to its history-shattering production for victory can come the answer to the pollution problem, he pointed out.

No development of the war, not even the experience gained by the armed forces in the treatment of water supplies all over the world, equals the importance of the research laboratory to the water works industry, he said.

Lewiston Daily Sun. September 20, 1946.

Lewiston Evening Journal. September 19, 1946. (Identical reports)

NEED LAWS TO END POLLUTION

Hale Urges Stronger Legislation Regarding River Pollution

Water Works Association Officers to Be Announced at Luncheon Friday

Poland Spring -- The New England Water Works Association, which closes its 65th annual meeting Friday at Poland Spring, was entertained at dinner Thursday night at the Poland Spring House

by the Water and Sewage Works Manufacturers' Association, Inc. An address of welcome was given by Frank A. Southard, chairman of the Maine Public Utilities Commission. Appearing on the evening program were John Gould, Lisbon "Enterprise" editor, the Valle trio, and Earle Kenwick, baritone.

A meeting of superintendents will be held Friday, with a luncheon at noon marking the official end of the convention. At luncheon, officers for the next year will be announced and 25-year certificates awarded.

Thursday's activities included technical discussions in the morning and afternoon. Several motion pictures were shown in the afternoon.

J. Elliott Hale, technical secretary of the Maine Sanitary Board, stressed the need for "definite and stronger legislation that will eliminate the pollution from our waterways." He said the legislation must be firm in purpose but "not drastic enough to cause hardship to our industries and our towns and cities."

Hale reviewed the work of the Sanitary Water Board since it was established because of "the intolerable condition of the Androscoggin River in 1940 and 1941." With funds made available by the Legislature in 1946, he said, engineers for the Board now have surveyed approximately 5,000 miles of inland waters, principally in the southern, western and central parts of the State. All of the waters have been classified as to present use.

The Board has been "fairly successful" in persuading towns and cities to "adopt methods for abating their share of pollution,"

Hale, who served as Sanitary Engineer for the State during the war, said.

"In the case of industry," he added, "much research has been done to find a satisfactory by-product from the individual wastes; this has been particularly true of the canners and pulp and paper units, and more lately of the starch industry." Pulp and paper waste has been the principal cause of pollution of the Androscoggin River, according to a survey made for the State by the firm of Metcalf and Eddy, of Boston, a few years ago.

To Avoid Federal Control

The fact that water pollution is a problem which is not peculiar to Maine alone was brought out by speakers from the Sanitary Division of the other New England states. Warren J. Scott, director of the division for Connecticut, brought out that the States themselves must assume their responsibility "if Federal control is to be avoided" in the matter of stream pollution work.

Situation in Vermont

Edward L. Tracy, director of the Vermont division, pointed out that the laws of his state relating to water pollution are "incomplete and inadequate." The program of education is underway to acquaint the general public with the gravity of the situation as the first step toward better legislation for Vermont, he said. "Vermont is far behind the average of the country in the development of sewage treatment plants," he said. This is a large factor in the pollution of Vermont waters. It is doubtful, he added, that any action will be sought from the next Legislature. A solid

foundation for adequate legislation first must be laid. One of the chief things needed, he said, is a law allowing municipalities to finance sewage treatment plants through levies on sewers. Walter J. Shea, acting chief of the Rhode Island division, pointed out that Rhode Island was one of the first states in 1904 to enact legislation controlling the pollution of water. Despite the early start, he said, "much remains to be done." There is a great need, Shea declared, for research on disposal of industrial wastes. That need can best be met economically by the Federal Government, he concluded. As for municipal sewage, Rhode Island needs a law which would allow levying a sewage tax so that treatment plants could be financed, Shea told the convention.

Arthur D. Weston, of the Massachusetts division, told of the progress made in that state on anti-pollution work. In spite of many years of work, he said, the state today has one stream "which probably is the most polluted in the world." Remedial measures are in the process, he said. At the present time, all pollution of Massachusetts waters, inland or tidal, must be approved by the State Department of Health. Domestic sewage is the chief problem of the state, and the attorney general of Massachusetts currently is taking action against offending municipalities. Weston was emphatic that the solution to stream pollution is "not through Federal legislation."

The purification and filtration of water from Lake Ontario, plus the enforced pasteurization of milk has reduced the typhoid death rate from 600 per year in 1890 and 300 in 1910, to one or two per

year in the past 15 years, William Storrie, consulting engineer of Toronto, Ontario, told the water works executives at the opening session today. Through 1945 and thus far in 1946, there have been no typhoid deaths in Toronto, he said. Storrie discussed the difficulties and problems encountered in supplying water to the city of Toronto, particularly in view of ice conditions there through the winter. He made use of lantern slides effectively, to illustrate his interesting discussion.

Sanitation On Okinawa

Dr. Elmer W. Campbell, director of the Division of Sanitary Engineering for Maine, a principal speaker at the afternoon session, detailed the work of the American occupation forces on Okinawa. Dr. Campbell served with the U. S. Army as a sanitary engineer. When the troops hit the beaches, he said, it was unknown just what problems would be met in furnishing the fighting men adequately treated water to protect their health. In the first days of the occupation, makeshift portable equipment was devised by the sanitary engineers and their workers, and it worked successfully. Later, heavier standard equipment was received from the United States, and large treatment plants set up to take care of the tremendous need for safe water.

Lewiston Evening Journal. September 20, 1946. Editorial.

THE POLLUTION QUESTION

The call for "definite and stronger legislation that will eliminate the pollution from our waterways" made by J. Elliott Hale, technical secretary of the Maine Sanitary Water Board at the

Poland Spring convention of the New England Water Works Association, is timely.

Now that the war is over, it is essential that additional steps be taken to improve the situation on several Maine streams, especially the Androscoggin River, so that a revival of the bad conditions that prevailed in Lewiston and Auburn from 1939 to 1941 will not be repeated or experienced elsewhere in the State. The Androscoggin still is a long way from being free from pollution. Several times, this summer, the river has given off the repulsive odor that lasted for weeks at a time during the worst years. If conditions are to be bettered to the point where there will be no stench, even during low water, efforts must be continued to abate pollution of the river, including the strengthening of law governing pollution control.

The pulp and paper industrial plants located on the Androscoggin generally have been cooperative in the struggle to eliminate the unsanitary conditions that set in along the lower reaches of the river. With this in mind, the State Legislature could well follow the advice given by Hale, namely, that while pollution legislation "must be firm in purpose," it should not be "drastic enough to cause hardship to our industries."

Surely there is a middle ground to be found for better pollution legislation. Study of the regulations in other States might go far toward establishing this ground.

The next session of the Legislature ought to study the matter, and, if possible, enact legislation governing pollution that will result in the cleaning up of Maine streams which are obnoxious

because of pollution that will prevent future aggravated pollution and that will do all this without imposing unreasonable curbs on industries or municipalities.

Lewiston Evening Journal. October 1, 1946. Editorial.

RIVER BLUES

Now that the Maine election is over, and there is time available for other matters than vote-getting, it is recommended to state and to National authorities that the time has run out on the patience of residents of the Androscoggin Valley over the river stench that has assaulted their nostrils this and other summers.

We urge the Androscoggin County delegation to the Legislature to dig into this matter between now and next January. We would like to see them armed with facts and figures, causes and effects and everything else except the smell from the river whose waters mingle with the Imperial Kennebecat Merrymeeting Bay.

On the other hand, it might not be bad business to have some of the Androscoggin perfume bottled for exhibit and released on appropriate occasions.

We suppose the Die-Hard Auburn Republicans and the Die-Hard Lewiston Democrats and the rest of the law-makers from this county could compose their political differences to work in the common cause.

We ask Congresswoman Margaret Chase Smith to press the matter in Washington and Senators White and Brewster to do likewise.

Lewiston Evening Journal. October 1, 1946.

COUNCIL ON STREAM IMPROVEMENT WILL HEAR
POLLUTION RESEARCH PROGRESS AT HUB MEETING TOMMORROW

by L. A. Lemieux

What progress industry itself is making, in its research laboratories, on the matter of eliminating stream and river pollution and just what that progress means to Maine and New England will be explained in reports to be presented at a meeting of the Regional Committee of the National Council on Stream Improvement Wednesday. The session is to be held at the Copley Plaza hotel, in Boston, and is expected to be of particular interest to this State.

The Council is an organization of pulp and paper manufacturers set up to conduct research into the treatment and possible use of industrial waste. It is chiefly concerned with pollution caused by pulp and paper waste.

Clyde Morgan, of Bangor, president of Associated Industries and head of the Eastern Corporation, is chairman of the regional committee which is to hold the open meeting tomorrow. Representatives from the Maine pulp and paper industry, the State Division of Health of the Department of Health and Welfare, and public officials have been invited to attend the session.

Can Shed Light

Results of the research made by the Council will be of special interest to residents of Lewiston and Auburn, and of the entire Androscoggin River Valley. Those results well can shed light on what can be expected in the way of improvement of pollution conditions which have created a nuisance along the river for many years.

A survey conducted for the State in recent years demonstrated that the major part of the pollution which results in a nauseating stench along the Androscoggin is from pulp and paper waste, sulphite liquor waste.

Although conditions have been improved in the past two years, the evil is far from corrected. If the work of the NCSEI has resulted in the discovery of ways and means of reducing or off setting the pollution from sulphite paper processes, whether by the manufacture of by-products from the wastes, reclaiming of chemicals, or treatment of the wastes, it can mean much to the entire valley. That the Boston meeting is of importance to Maine has been stressed by the Associated Industries of Maine. B. Morton Havey, executive director of the organization, will be present at the Boston session.

Lewiston Daily Sun. October 3, 1946.

Accompanying this article was a three column photoprint by A. F. photowire, of Clyde Morgan, Dr. W. A. Lawrence, Dr. E. W. Geha, Prof. W. W. Hodge and Russell L. Winget.

SEEK CURE FOR ODOR OF RIVER

Stream Betterment Conference Told Androscoggin One of Two "Hot Paper Waste Pollution Problems in New England - Two Bates College Professors Give Reports

Boston - New England has two "hot" problems of paper waste pollution in the Androscoggin and Housatonic rivers, Russell L. Winget, executive secretary of the National Council for Stream Improvement, told a conference of New England members Wednesday at the Copley Plaza Hotel, despite large sums spent in research and attempts to clear the waters of these two rivers. The conference also heard two Bates College professors report on conditions on the Androscoggin River.

Androscoggin Odor

Dr. W. A. Lawrence, Bates College consultant to the council, reported the Androscoggin River, with a 1,200-foot drop in 170 miles and flowing through the heart of Lewiston, offers a peculiar problem. He said turbulence of the river results in an unusual release of odorous gasses. One of them, he added, is a marsh gas, or methane.

Dr. W. H. Sawyer, also of Bates College, another council consultant said the river apparently had considerable powers of recovery because fish life appeared to be growing in the autumn of the year after being almost non-existent during the summer.

The group was told by J. Elliott Hale, executive secretary of the Maine Sanitary Board, the Androscoggin River would not clear up for 10 years because of deposits of sewage solids, even if the mills along its banks shut down immediately.

The paper industry is "determined to find a solution to the problem of stream pollution, Clyde Morgan, president of the Eastern Corporation of Bangor, declared. He said paper manufacturers already had spent \$270,000 in an attempt to aid in ridding waters of pollution caused by pulp operations.

Winget described the Androscoggin and Kennebec rivers as New England's two "hot" problems of paper waste pollution. He said considerable research is being done to find methods for controlling odors which are a "recurring annoyance to Lewiston, Me."

Lewiston Evening Journal. October 3, 1946. Editorial.

THE ANDROSCOGGIN

It is encouraging that somebody is taking our Androscoggin river problem seriously. In Boston, the National Council for Stream Improvements is told that the river that rolls so majestically as of today and so odoriferously as of a few days ago is one of two "hot" paper waste pollution problems in New England. However, pulp manufacturers are aware of the evils of stream pollution and have spent \$270,000 in an effort to find a solution. Communities are not without blame. For generations they have been dumping their sewage into what was once a clear stream, abounding in fish and a pleasure to behold.

The bad news is that if the river received no more pulp wastage, it would take ten years, because of sewage deposits, to clear. Dr. W. H. Sawyer of the Bates College faculty and one of the council's consultants, gives a ray of hope in his findings that the river apparently has considerable power of recovery evidenced by the fish found in the fall after being absent in the summer. Whatever the conclusions of the experts, the campaign to bring the Androscoggin back to polite society is to be pushed with vigor. "River, stay 'way from my nose."

Lewiston Evening Journal. October 3, 1946.

CLEARING ANDROSCOGGIN TO TAKE TIME; MILLIONS, EXPERTS REVEAL

by L. A. Lemieux

Boston - Industry is making a determined effort to solve the problem of river and stream pollution, but it is no easy job to

cope with conditions such as exist on the Androscoggin River. Four years of intensive research in Maine, and two years of work in research laboratories spread all over the country, have demonstrated one outstanding fact: There is no ready-made, easy, wave-of-the-wand method of correcting the present nuisance conditions. Remedial action will take time and many times more than the quarter of a million dollars spent thus far this year on research, work.

Those were the major conclusions brought out in the course of the Regional Meeting of the National Council on Stream Improvement at the Copley Plaza Hotel Wednesday. There was no attempt to confuse the issue and not even a hint of any endeavor to shift the blame for the nuisance conditions onto the shoulders of anyone else. The pulp and paper industry representatives acknowledged freely that sulphite liquor waste was the chief polluting agent in the Androscoggin River. Their discussion started off from there.

One ray of hope -- a newly developed method operating a water course -- shone from the mass of technical reports on the progress made in research. Whether that new method successfully can be applied to the Androscoggin River, to bring about almost immediate improvement of conditions, and practical elimination of the stench nuisance, is an unanswered question. A survey presently is underway to find the answer. It will be months before the new way of injecting oxygen into the water through the use of compressed air goes beyond the investigatory stage along the river.

To date, the method has shown promise. In the research laboratory, it succeeded in eliminating odor from polluted water. Applied in a "pilot" plant, located on a small stream, the method worked

better than anything previously developed. It opened up vast new possibilities for stream improvement work, in the opinion of Dr. H. W. Gehm, technical director of the MCSI, but it would be inadvisable to conclude that the method offers an immediate solution to the vast problem of the Androscoggin.

Throughout the meeting of the Council it was emphasized and re-emphasized that the pulp and paper industry realizes the problem of the Androscoggin, and that the research facilities which the industry is financing regards the finding of a solution as their "most pressing" duty.

Dr. W. A. Lawrence, of Bates College, research advisor and supervisor for the Council and consultant for the technical river committee set up by the pulp and paper industry in Maine; and Dr. William H. Sawyer, Jr., also of Bates College, advisor to the Council, were among the scientists who presented progress reports at the meeting.

Tells Aims, Policies

Before the presentation of the formal reports, Russell L. Winget, executive secretary of the Council, explained that the purpose of the organization is to "conduct research and develop methods of coping with pollution from pulp and paper operations."

He held out the hope that the program "will eventually solve all of the problems of the pulp and paper industry on pollution."

The policy of the Council, he declared, is that abatement of nuisance conditions "cannot await utilization," or production of salable materials from the wastes treated. While making no

attempt to influence legislation, he said, the Council will continue to keep abreast of anti pollution legislation and such laws necessarily will outline the course which research must follow as time goes on.

Winget listed as the "two major problems in New England" the conditions on the Androscoggin River, and those on the Housatonic River, in Western Massachusetts. The former is "the harder one to crack, and the most pressing," he added. The problem is complicated by many factors, one of them the fact that water along the Androscoggin is impounded by dams at many points. He said that the possibility of aerating the river by artificial means was being investigated.

Killing The Stench

Dr. Gehm, head research chemist, reported in detail on the development of a method of "self purification" of water through the "diffusion of compressed air" in the stream. The method results in aerating the water, that is, adding oxygen to it. "Three years of experimental work has proved it successful," he declared. "Now it remains to determine where the method would fit in. We now are surveying the Androscoggin River with a view to utilization of the new method," the scientist stated.

While aeration holds promise, research is not being confined to that system. The "trickling filter" method of waste disposal, similar to the system of sewage disposal used by municipalities whereby bacteria brings about the oxidization of the waste, also is the subject of experiment and study. To date, the method has been found "very expensive." Efforts have been made to increase

the efficiency of the system, but the "maximum" has been approached. Dr. Gehm was "not too optimistic" about the future of bacterial oxidization. The necessity of adding nitrogen and phosphate to the waste, in order to enhance the development of bacteria is the chief reason why the method is so expensive, he explained. Neither the "trickling filter" research nor efforts to discover a satisfactory means of disposing of "spent sulphite liquor" has developed anything "that would be of benefit in the Androscoggin situation," according to Dr. Gehm.

Fodder Yeast

Research also is being directed at the possibilities of developing fodder yeast from the waste sulphite liquors, thus reducing their "oxygen demand," or the amount of oxygen which the waste extracts from the water. "This process, which is being investigated at Oregon State College, would, if successful, not only reduce the pollution from sulphite pulp mills but would also furnish a greatly needed supply of supplemental high protein feed for stock and poultry feeding," Dr. Gehm reported. He added that "the process has reached the pilot plant stage and if yeast production and animal feeding tests prove successful, it may furnish a method of reducing pollution from sulphite pulp mill operations."

The research work of the Council is divided into three phases, he said: Correction of immediate nuisances; development of a long range program; and application of the program to mill operations. To date, the major portion of the work has been laboratory. The same will be true "for some time to come," Dr. Gehm said.

Above all, the research chemists are bearing in mind that methods arrived at must be right before industry is asked to undertake expensive changes. That is why the laboratory experiments are followed by "pilot plant" tests, and actual operational tests at existing mills, the scientist explained.

Odor Peaks "Unpredictable"

Dr. Lawrence reported on his study of the Androscoggin River stench nuisance over the past four years. Many "variables," such as wind, temperature, height of water, water use along the system of dams, etc., have complicated the work, but now data is beginning to be secured which will lead to the "interpretation" of the situation, he said.

One of the strange factors uncovered by the research work has been that the "peaks of intensity of the odor are proving unpredictable," the Bates College doctor of chemistry told the Council members. The odor itself is made up of a gas which is essentially "marsh gas, methane," with small amounts of carbon dioxide and very small amounts of hydrogen in it, he said.

Pointing out that originally, the Androscoggin River was "turbulent and wild flowing," in its 170 mile journey to the sea, a journey in which it drops 1,200 feet, Dr. Lawrence said that now, the Androscoggin is "the best regulated river in the United States." That regulation is through a series of dams, and those dams provide a "perfect medium" for the development of just the type of trouble which has developed.

The dams and locks hold back the water, allowing the pollution to settle. Then, the operation of these dams and locks causes "increased turbulence" of the water, releasing the obnoxious gases.

A part of the research work to date has included following sulphite pollution right down the river into the huge lagoon above Gulf Island Dam, the major impounding agent, and then on through Deer Rips and by the cities of Lewiston and Auburn. Much was learned from this work, he said.

Success in Anaerobe Hunt

Dr. Sawyer told the group, in a report on the microbiology of the Androscoggin River, that the river "still possesses considerable power of recovery" in its descent to the sea. Recovery in this instance means the power of the river to purify by picking up oxygen from the air along its course.

He gave as proof of the fact of "power of recovery" his finding of fish life in the upper pool above the Gulf Island Dam. In answer to questions by J. Elliott Hale, technical secretary of the Maine Sanitary Water Board, Dr. Sawyer said he had found suckers and yellow perch in the area.

A principal result of his study of the river had been isolation of an anaerobe "common to waters all over the world" which produces hydrogen sulphide, so-called rotten egg gas, the Bates scientist said. Growing the anaerobe, called *spirovibro disulfuricans*, in a culture in the laboratory had resulted in behavior "surprisingly like the river," and the development of "bursts of hydrogen sulphide," Dr. Sawyer explained.

Foreign Methods Lag

Dr. Gehm, who conducted the portion of the meeting given over to the technical reports on research, vehemently denied oft-repeated claims that foreign nations have found the answers to waste disposal

while America has lagged behind. Investigation has shown, he said, that "not only are they not ahead of us, but normally they are far behind us on the treatment of sulphite wastes."

As for the production of alcohol and vanillin from the waste as a cure-all for the sulphite liquor waste nuisance, Dr. Gehm declared that such processing would represent the "reduction of only a portion of the liquor from one small mill." The possibilities of the methods are "very limited," he claimed.

Flax Pulp

Prof. W. W. Hodge, of the Mellen Institute, reported on results obtained in the treatment of waste from flax pulp operations. Addition of a petroleum fraction to the waste liquor had proved successful in the practical elimination of foam conditions on the Housatonic River, he said. The success found in the laboratory was repeated when the treatment was carried out at an actual plant he said.

Need For "Balance"

In the course of the session, Clyde Morgan, chairman of the regional committee of the Council and president of the Associated Industries of Maine, pointed out that he knew of no job in industry "which requires a keener balance between the purely scientific approach and practical economics" than the current research job on stream improvement. Progress is necessarily slow, he said, but it is being made. Moreover, the work will be prosecuted to an ultimate solution of the problems confronting the industry.

Program Commended

The program of the Council, as outlined at the meeting, was commended by Arthur D. Weston, Chief Sanitary Engineer of the Massa-

achusetts Department of Public Health, who termed it "one of the first sensible programs" undertaken by industry in this country. J. Elliott Hale, Maine sanitary engineer and technical secretary of the Maine Sanitary Water Board, asked for the reaction to the program termed it "a good start" on commendable work. "But, he added, " we would like to see more positive results."

Col. Frank E. Southard, chairman of the MSWB and of the Maine Public Utilities Commission, expressed satisfaction that industry was making a real effort to clean up conditions. "I hope," declared, "that the compelling features will not beat you to the punch," in other words, that industrial research would find the solution to the problem of pollution before the public demand for action resulting in legislation forcing industry to stop their pollution.

Both the Brown Company and the International Paper Company, which discharge sulphite liquors into the Androscoggin River, under strict court regulations, were represented at the meeting.

Lewiston Daily Sun, October 18, 1946.

COLLEGE CLUB GROUP ENTERTAINS MRS. SMITH

Representative Margaret Chase Smith said in part:

"We must be realistic about the problem of pollution of Maine rivers and because we are an industrial state, we must work with industry rather than use drastic measures for changes."

Representative Margaret Chase Smith stated at the opening fall meeting of the Lewiston-Auburn College Club Thursday evening at

Philharmonic Studio. Announcement of the program for 1946-47 was made by Miss Eleanor McCue, program chairman.

Federal Aid For Pollution

Discussing her anti-pollution bill which she introduced in Congress in 1941 at the request of Auburn-Lewiston citizens she said "I have reintroduced this bill each term and shall try it again. During this time the State of Maine has taken initial steps toward eliminating this problem by amending its laws so that new sources of pollution will not develop. This is excellent as far as it goes but unless there is Federal authority for compacts between States, financial assistance by State or Federal government, either by grants-in-aid to municipalities or loans to industries, little can be accomplished and this is what my proposal provided.

"We are an industrial State, especially through this Second Congressional district, and we must work with industry rather than use drastic measures for changes. As someone said, "We can live with odors, but we cannot live without the things industry produces."

"Pollution has always been a problem and a controversial one. Some industries, we are told, are spending hundreds of thousands of dollars in research attempting to find a solution. Through the war little was done, but now with industry, municipalities, local, State, and Federal governments all working together it would seem that a way would be found. What are some of the ways for relief? -- plants to dispose of waste or to use waste for by-products that will sell and help defer the expense.

"But industry alone is not causing this pollution. Municipalities use rivers for sewage and until there is money for sewage disposal plants, pollution will continue. Thus my proposal for financial assistance.

"Funds have been built up for this purpose by many organizations and in some instances, work has commenced. Some progress has already been made under the Maine statute, but it seems to me that there must be authorization of compacts between states before much can be accomplished as any improvements in the Maine rivers will be of little value if other states using the same rivers do not cooperate."

Lewiston Evening Journal. October 18, 1946.

MRS. SMITH ADDRESSES COLLEGE CLUB

"We are an industrial state, especially through this Second Congressional district, and we must work with industry rather than use drastic measures for changes. As someone said, "We can live with odors but we cannot live without the things industry produces" Representative Margaret Chase Smith told members of the Lewiston-Auburn College Club Thursday evening at the Philharmonic Studio. Mrs. Smith further stated, "We must be realistic about the problem of pollution of Maine rivers and because we are an industrial state we must work with industry rather than use drastic measures for changes."

In discussing her anti-pollution bill which she introduced in Congress in 1941 at the request of Auburn-Lewiston citizens she said, "I have reintroduced this bill each term and shall try it again.

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Mrs. Smith asserted that industry alone was not causing pollution. Municipalities use rivers for sewage and until there is money for sewage disposal plants, pollution will continue. Thus my proposal for financial assistance. She further informed her audience that funds had been built up for this purpose by many organizations and in some instances, work has commenced.

Lewiston Evening Journal. October 17, 1946.

HEARINGS BEFORE THE STATE BUDGET COMMITTEE

Sanitary Water Board

Col. Frank E. Southard, Chairman of the Sanitary Water Board, presented a budget asking for \$13,000 next year and \$13,500 the following year, for that division. The increases were due chiefly to the cost of living wage increase, merit increases, and the need for more travel expenses and some repairs to equipment, he said. The Board spent \$11,714 last year and this year will expend \$11,525 of a \$13,000 appropriation.

The Colonel credited the creation of the MSWB with having been instrumental in causing industry to set up the National Council on

Stream Improvement, to which the pulp and paper industry contributes a quarter of a million dollars a year for research work.